New York State Integrated Pest Management Program | Cornell Cooperative Extension

Elements of IPM for Established, Clear Seeded Alfalfa in New York State

MAJOR PESTS

Insects	Diseases	Weeds
alfalfa blotch leaf miner	Stem and Root Diseases	annual grasses
alfalfa weevil	anthracnose	annual broadleaf
*alfalfa snout beetle	Aphanomyces root rot	perennial grasses
aphids	brown root rot (BRR)	perennial broadleaf
clover leaf weevil	crown rot	nutsedge
clover root curculio	Fusarium crown & root rot	dodder
grasshoppers	Fusarium wilt (FW) not confirmed in NYS	
green cloverworm	Phytophthora root rot (PRR)	
meadow spittlebug	Sclerotinia crown and stem and root rot	
pea aphids	Verticillium wilt (VW)	
potato leafhopper		
slugs	Leaf Diseases	
tarnished plant bug	alfalfa mosaic virus	
	bacterial leaf spot	
	common or Pseudopeziza leaf spot (CLS)	
	downy mildew (DM)	
	Leptosphaerulina leaf spot (Lepto)	
	spring black stem (SBS) & leaf spot	
	Stagonospora leaf blotch	
	Stemphyllium leaf spot	
	yellow leaf blotch	

*Alfalfa Snout Beetle – In areas of Cayuga, Clinton, Essex, Franklin, Jefferson, Lewis, Oswego, St. Lawrence, Wayne Counties and Ontario, Canada.

Pre-Season IPM Considerations

Activity	Priority	Points	Acreage Goal	Grower Points
Review weed maps of fields to choose appropriate weed control strategies.	H	15	75%	
Soil test (P and K) and maintain pH at 6.5 to 7.0 (lime when needed) every three years.	H	15	75%	
Review field history to choose appropriate insect and disease management strategies.	M	10	50%	
Maintain field history records (Use Cornell Cropware or other crop records keeping system).	M	10	75%	
Seed treatment with anti-oomycete treatments for management of Pythium damping off and early season Phytophthora root rot.	H	15	75%	
TOTAL		65		

Pesticide Best Management Practices

Activity	Priority	Points	Acreage Goal	Grower Points
Calibrate pesticide equipment in the spring or hire a custom applicator.	H	15	---	
Avoid spraying when bees are foraging and notify bee keepers when spraying insecticides.	H	15	---	
Use Environmental Impact Quotient (EIQ) or Windows Pesticide Screening Tool (Win PST) to help select a more environmentally friendly pesticide when needed.	H	15		
TOTAL		45		

Insect Pest IPM for Pure Stands of Alfalfa

Activity	Priority	Points	Acreage Goal	Grower Points
Use recommended scouting procedures and action thresholds for making decisions about managing insect pests in alfalfa.	H	15	75%	
Alfalfa Weevil – monitor 2nd year and older stands from late April through re-growth following first harvest.	H	15	75%	
Potato Leafhopper – monitor for potato leafhopper after first harvest through the first frost.	H	15	75%	
Use potato leafhopper resistant alfalfa.	M	10	75%	
TOTAL		55		

Areas with Alfalfa Snout Beetle

Activity	Priority	Points	Acreage Goal	Grower Points
*Watch for migrating alfalfa snout beetle in the spring.in known infested counties (Cayuga, Clinton, Essex, Franklin, Lewis, St. Lawrence, Jefferson, Oswego and Wayne).	M	10	75%	
*Dig alfalfa plants and evaluate roots for presence of damage from alfalfa snout beetle.	M	10	75%	
*Apply predatory nematodes to establish biological control for alfalfa snout beetle in infested fields.	H	15	75%	
*Use shorter rotations of 3 years or less to manage alfalfa snout beetle.	H	15	75%	
TOTAL Snout Beetle		50		

*Alfalfa Snout Beetle – In areas of Cayuga, Clinton, Essex, Franklin, Jefferson, Lewis, Oswego, St. Lawrence, Wayne Counties and Ontario, Canada.

Disease IPM for Pure Alfalfa Stands

Activity	Priority	Points	Acreage Goal	Grower Points
Monitor fields every 7-10 days for presence of disease.	M	10	50%	
Manage and reduce spread of disease among established stands by harvesting new seedings and disease-free fields first.	L	5	50%	
Clean harvest equipment of plant debris between field moves and cuttings.	L	5	50%	
Harvest early to reduce spread of foliar disease if disease is present at high levels.	M	10	50%	
Use disease resistant cultivars: Fusarium wilt, Phytophthora root rot, anthracnose, Verticillium wilt and more.	H	15	75%	
TOTAL		45		

IPM for Weeds in Alfalfa

Activity	Priority	Points	Acreage Goal	Grower Points
Take a weed survey in the spring and fall. Update weed maps to use when planning for next year, noting weed type and location.	M	10	50%	
Planting alfalfa by late March to mid-April aids in weed control.	M	10	50%	
Consideration of alfalfa variety for weed suppression and herbicide tolerance.	L	5	25%	
TOTAL		25		

Crop Management for Healthy Plants

Activity	Priority	Points	Acreage Goal	Grower Points
Use the PEAQ (Predictive Equations for Alfalfa Quality) method of measuring height, determining the stage of growth to evaluate the NDF level for harvest intervals. (This is for first cutting only.)	L	5	30%	
Take stand counts in the spring and following the last cutting to evaluate stand prior to assess productivity potential for the future. (Reduction in plant population is an indication of diseases.)	H	15	50%	
Maintain flowering plants and shrubs for pollinators along field edges and hedge rows.	Bonus	10		
TOTAL		20		

Calculate Total Points Earned - 80% Needed to Qualify for Certification

Section	Available Points	Grower Total
Pre-Season IPM Considerations	65	
Pesticide Best Management Practices	45	
Insect Pest IPM for Pure Stands of Alfalfa	55	
Farms with Alfalfa Snout Beetle	50	
Disease IPM for Pure Alfalfa Stands	45	
IPM for Weeds in Pure Alfalfa	25	
Crop Management for Health Plants	20	
TOTAL Total without Snout Beetle = 255; 80% = 204 Total with Snout Beetle = 305; 80% = 244		

To Learn More

Specific information about the use of these IPM elements can be found in the following publications:

1. NYS IPM Weekly Field Crops Pest Report published during the growing season, http://blogs.cornell.edu/ipmwpr.
2. NYS IPM Livestock and Field Crops Program, http://www.nysipm.cornell.edu/fieldcrops/default.asp.
3. Cornell Guide for Integrated Field Crop Management, http://store.cornell.edu/c-875-guidelines.aspx.
4. Cornell Cropware or other crop record keeping system, http://www.farminfotech.com/cropware.htm.
5. Cornell Cooperative Extension Field Crop Meetings when offered.
6. Growing Alfalfa the IPM Way, 1991. NYS IPM Publication number 305.
7. Your Pocket Guide to Alfalfa and Field Corn Management 1994. NYS IPM Publication number 313.
8. Cornell Field Crops Forages website, https://fieldcrops.cals.cornell.edu/forages.
9. A Method to Measure the Environmental Impact of Pesticides 1992, New York Food and Life Sciences Bulletin Number 139, https://nysipm.cornell.edu/eiq.
10. Cornell Forages, http://forages.org.

IPM Options for Managing Specific Alfalfa Pests

The management techniques listed below offer varying degrees of control for pests listed.

For more information, consult the Cornell Guide for Integrated Field Crop Management.

Alfalfa Pests	Planting Date	Resistant Varieties	Seed Treatment Pesticides	Field Sanitation	Crop Rotation	Biological Control	Early Harvest	Pesticides
alfalfa weevil				√	√	√	√	√
potato leafhopper		√		√		√	√	√
alfalfa snout beetle					√	√		
clover root curculio					√			
alfalfa blotch leafminer						√	√	
spotted alfalfa aphid						√	√	
leaf blights				√	√		√	√
verticillium wilt		√		√	√			
Anthracnose		√		√	√			
Phytophthora root rot		√	√		√			
brown root rot					√			
Fusarium wilt		√			√			
Sclerotinia crown & stem blight	√				√			
annual grasses				√	√			√
annual broadleaves				√	√			√
biennial weeds				√	√			√
perennial grasses	√	√		√	√			√
perennial broadleaves	√	√		√	√			√